RECORDS OF TENNESSEE CHRYSOPIDAE (NEUROPTERA).[1]

By Wm. E. Bickley,
University of Maryland, College Park, Md.

In 1934 I became interested in the family Chrysopidae and subsequently collected several hundred specimens in various parts of East Tennessee. Most of this material is now in the collection of the Department of Entomology of the University of Tennessee. Further studies have been made of Tennessee material in the collections of the University of Tennessee, the U. S. National Museum (courtesy of Dr. A. B. Gurney), the Museum of Comparative Zoology at Harvard University (courtesy of Professor Nathan Banks) and the Academy of Natural Sciences of Philadelphia (courtesy of Messrs. E. T. Cresson, Jr. and John Rehn). At least one specimen of each species in the list that follows was sent for determination or verification to the late Mr. A. N. Caudell, to Professor Nathan Banks, or to Dr. Roger C. Smith, and this help is gratefully acknowledged. The late L. C. Marston, Jr., and David A. Johnson helped with the collecting. Their initials in the list indicate that they collected at Knoxville one or more specimens of the species concerned. Unless otherwise noted, collections are my own.

Allochrysa virginica (Fitch). This species, which is often associated with aphids on oak trees, is known to be of eastern distribution, ranging from Massachusetts to Florida. Specimens are recorded from Knoxville and Byington (D. A. J.). One specimen collected by S. Marcovitch, Knoxville.

Meleoma signoretti Fitch. This species has not previously been reported south of New York. However, there are specimens in the M. C. Z. collection from Plummer's Island, Maryland, and Mountain Lake, Virginia. I collected one specimen at Martel (Loudon County), Tennessee, on August 16, 1934.

Chrysopa lineaticornis Fitch. This species has previously been reported from New England, New York, Michigan, and Maryland. It may be synonymous with *C. ampla* Walk. according to Banks (1903). Specimens are recorded from Knoxville

[1]This paper is based in part upon a thesis submitted to the Graduate Committee of the University of Tennessee in partial fulfillment of the requirements for the degree of Master of Science, August, 1936. I wish to express my appreciation to Professor G. M. Bentley and Dr. A. B. Gurney for help in the preparation of the manuscript.

and Martel (D. A. J.). One U. S. N. M. specimen was collected by R. H. Adams at Nashville.

Chrysopa nigricornis Burm. This is a very common species in Tennessee. It is apparently arboreal and reaches a peak of abundance in May. Specimens were collected at Knoxville and Martel (D. A. J.). One U. S. N. M. specimen from Hamilton County was collected by W. F. Turner.

Chrysopa chi Fitch (and its variety *upsilon* Fitch) is of northern distribution. Specimens are recorded from Knoxville and Martel. The *upsilon* variety was not collected.

Chrysopa oculata Say. Of the several varieties in this species, there is some doubt as to the validity of some of the varietal names.[2] However, the three varieties listed here are believed to be worthy of retention.

Chrysopa oculata Say var. *oculata* Say. This is the most common chrysopid in Tennessee. Over 150 specimens were collected at Knoxville, Concord, Martel, and Gatlinburg (D. A. J. and L. C. M.). One U. S. N. M. specimen from Hamilton County was collected by W. F. Turner.

Chrysopa oculata Say var. *albicornis* Fitch. The venation in this variety is darker than in var. *oculata*. This variety seems to be more abundant in less cultivated areas. Specimens were collected near Louisville (Blount County), Knoxville, Martel, and Gatlinburg (D. A. J. and L. C. M.).

Chrysopa oculata Say var. *illepida* Fitch. The pair of spots on each side of the vertex is joined to form a longitudinal band of dark brown or black. Specimens were taken at Knoxville (D. A. J. and L. C. M.).

Chrysopa plorabunda Fitch. This species is one of marked individual variations. Specimens were taken at Knoxville and Martel (D. A. J.).

Chrysopa harrisii Fitch. Specimens are recorded from Knoxville and Martel. One M. C. Z. specimen from Knoxville collected by W. W. Stanley and one from Roan Mountain Station collected by A. P. Morse.

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[2] A specimen of *C. oculata* Say which was thought to be var. *bipunctata* Fitch was sent to Professor Nathan Banks. The determination was verified, but he wrote that, "It is useless to retain the varietal name for those forms with two disconnected brown spots on the vertex." Smith (1932) has retained this varietal name.

Chrysopa quadripunctata Burm. Specimens were taken at Knoxville, Martel, and Gatlinburg (D. A. J.).

Chrysopa rufilabris Burm. This is the second most abundant species in Tennessee. Specimens were collected at Knoxville, Concord, and Martel (L. C. M.). Several U. S. N. M. specimens from Roane County and Hamilton County collected by W. F. Turner.

Chrysopa interrupta Schneider. Specimens were collected at Knoxville and Martel.

REFERENCES.

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1903. A revision of the Nearctic Chrysopidae. Trans. Amer. Ent. Soc. 29: 137–162, 1 pl.

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1922. The biology of the Chrysopidae. Cornell Univ. Agr. Expt. Sta. Mem. 58: 1287–1372, figs. 154–163, pls. LXXV–LXXXVIII.

1932. The Chrysopidae of Canada. Ann. Ent. Soc. Amer. 25: 579–600, 1 pl.

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MINUTES OF THE 521ST REGULAR MEETING OF THE ENTOMOLOGICAL SOCIETY OF WASHINGTON.

The 521st regular meeting of the Society was held at 8 p. m., October 2, 1941, in Room 43 of the National Museum. President Ewing presided, and 42 members and 10 visitors were present. The minutes of the June meeting were read and approved.

It was unanimously voted to elect to membership Neal A. Weber, Department of Biology, University of North Dakota, University Station, Grand Forks, N. D.

E. A. Back exhibited a sample of the so-called California jumping beans, which were actively jumping. These are galls, formed on oak leaves in the Western States by the cynipid, *Neureterus saltatorius* H. Edwards. They are sometimes called "Flea seeds," jumping seed galls or jumping bullet galls. (Secretary's abstract.)

L. A. Hetrick reported large numbers of tree swallows in and about pine trees from which bark beetles (*Ips* sp.) were emerging. He believed the birds were feeding on the beetles and wondered if similar activity had been noted by others. (Secretary's abstract.)

The main program was as follows:

1. Some concepts underlying the work of a naturalist. Adam G. Böving Smithsonian Institution.